



Education  
Strategy  
Group

# Colorado Technical Working Group

July 21, 2023

# Agenda

- Prior work to define value thresholds/minimum value
- Proposed value definition and calculation
- Best metrics to determine cost
- Colorado-specific data availability
- Counterfactual/control group
  - Accounting for regionality, student characteristics
- Best metrics to define value?

# Measuring Economic Returns Via Thresholds

<b>Threshold 0</b>	<b>Minimum Economic Return:</b> A student meets this threshold if they earn at least as much as a high school graduate plus enough to recoup their total net price within ten years.
<b>Threshold 1</b>	<b>Earnings Premium:</b> A student meets this threshold if they reach at least the median earnings in their field of study, which accounts for expected variations in pay across fields.
<b>Threshold 2</b>	<b>Earnings Parity:</b> Informed by the University of Texas System's research on in-field pay inequities, this threshold measures whether students of color, students from low-income backgrounds, and women meet the median earnings of their more advantaged peers (White students, high-income students, or men).
<b>Threshold 3</b>	<b>Economic Mobility:</b> Informed by Opportunity Insights' measurement of economic mobility across institutions, this threshold measures whether students earn enough to enter the fourth (upper middle) income quintile regardless of field of study.
<b>Threshold 4</b>	<b>Economic Security*:</b> While sufficient earnings can create a stable life, wealth is key to building the type of security needed to withstand life's financial shocks, so this threshold measures whether students reach median levels of wealth.
<b>Threshold 5</b>	<b>Wealth Parity*:</b> Mirroring the earnings parity threshold, this threshold measures whether students of color, students from low-income backgrounds, and women reach the level of wealth attained by their more privileged White, high-income, or male peers.

*Note: Thresholds 0-3 can be estimated at the national level using College Scorecard data with some caveats. Institutions and systems with advanced data collections can measure these thresholds with greater specificity. Due to a lack of quality data to measure wealth, Thresholds 4 and 5 are currently understood as conceptual goals rather than operable analyses.*

# How to Calculate Threshold 0:

## Calculate student investment:

- Calculate annual net price (total cost of attendance minus grant aid)
- Multiply by an estimate of time to degree
- Amortize over a 10-year period to account for the cost of student loan interest and to provide an annual figure.

**Calculate Threshold 0:** Add the annualized student investment amount to the median earnings for high school graduates, by state

**Compare Threshold 0 to students' post-college earnings:** We consider a college to provide a minimum economic return if students' median earnings 10 years after entry meet or exceed Threshold 0.

# What Is a College Degree Worth?

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PRESTON COOPER

THE FOUNDATION FOR RESEARCH ON EQUAL OPPORTUNITY

FREOPP.org

# Calculating ROI

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- Estimate lifetime earnings with a college degree.
- Subtract lifetime “counterfactual” earnings – how much would you earn without the degree?
- Subtract direct costs of college (tuition and fees).
- Subtract indirect costs of college (lost earnings while enrolled).

ROI = Lifetime earnings – lifetime counterfactual earnings – college costs.

# ROI for psychology majors at the University of Arizona

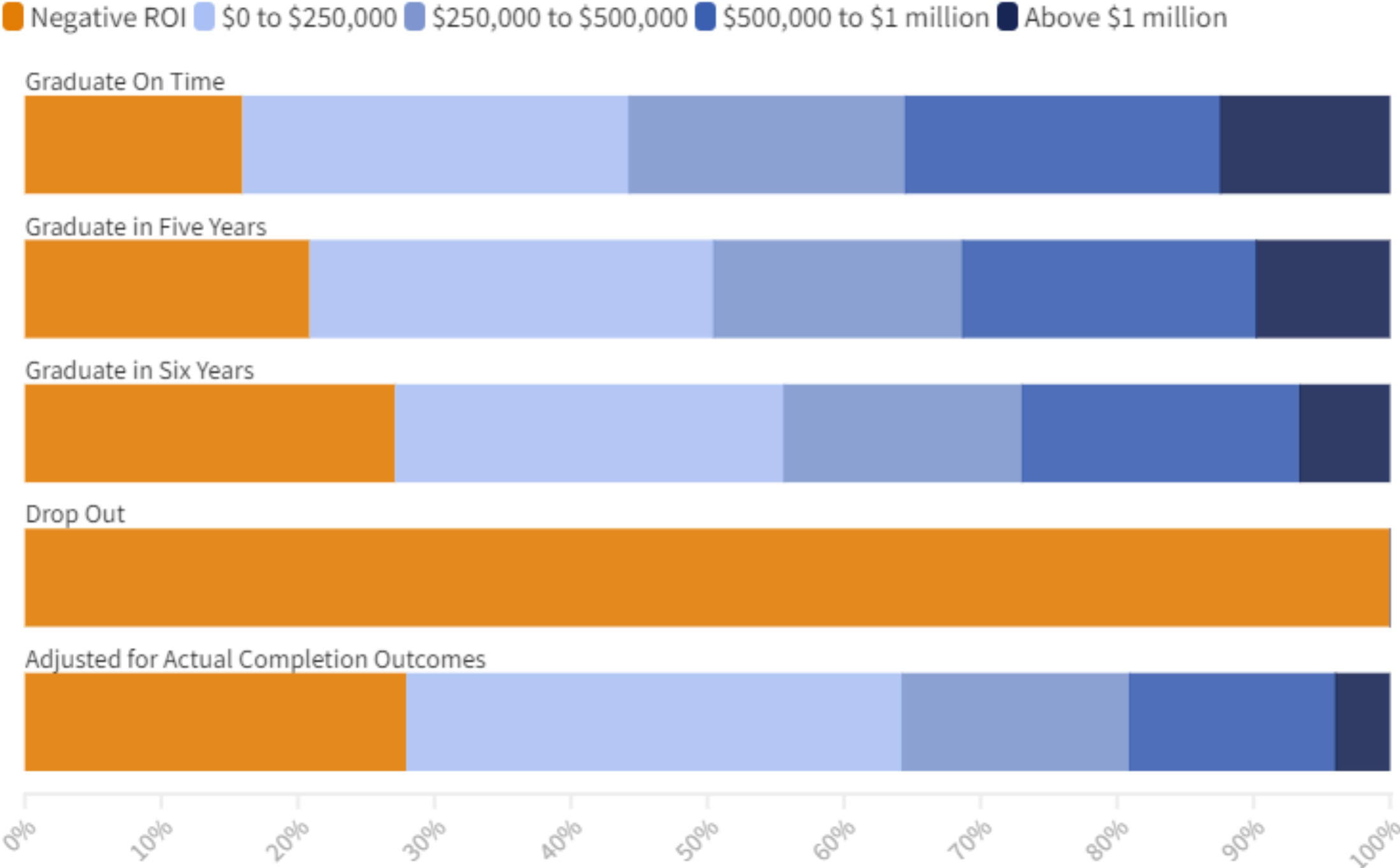
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- Lifetime earnings: \$1,090,306
- Lifetime counterfactual earnings: \$737,684
- Net tuition and fees: \$13,025
- Lost earnings while enrolled: \$81,617

**ROI = \$257,980**

# Taking Longer to Graduate Reduces ROI

Distribution of ROI by completion outcomes





# Resources

- Look up the ROI for 60,000 degrees and certificates at [roi.freopp.org](http://roi.freopp.org)

## What is the Financial Value of my Degree?

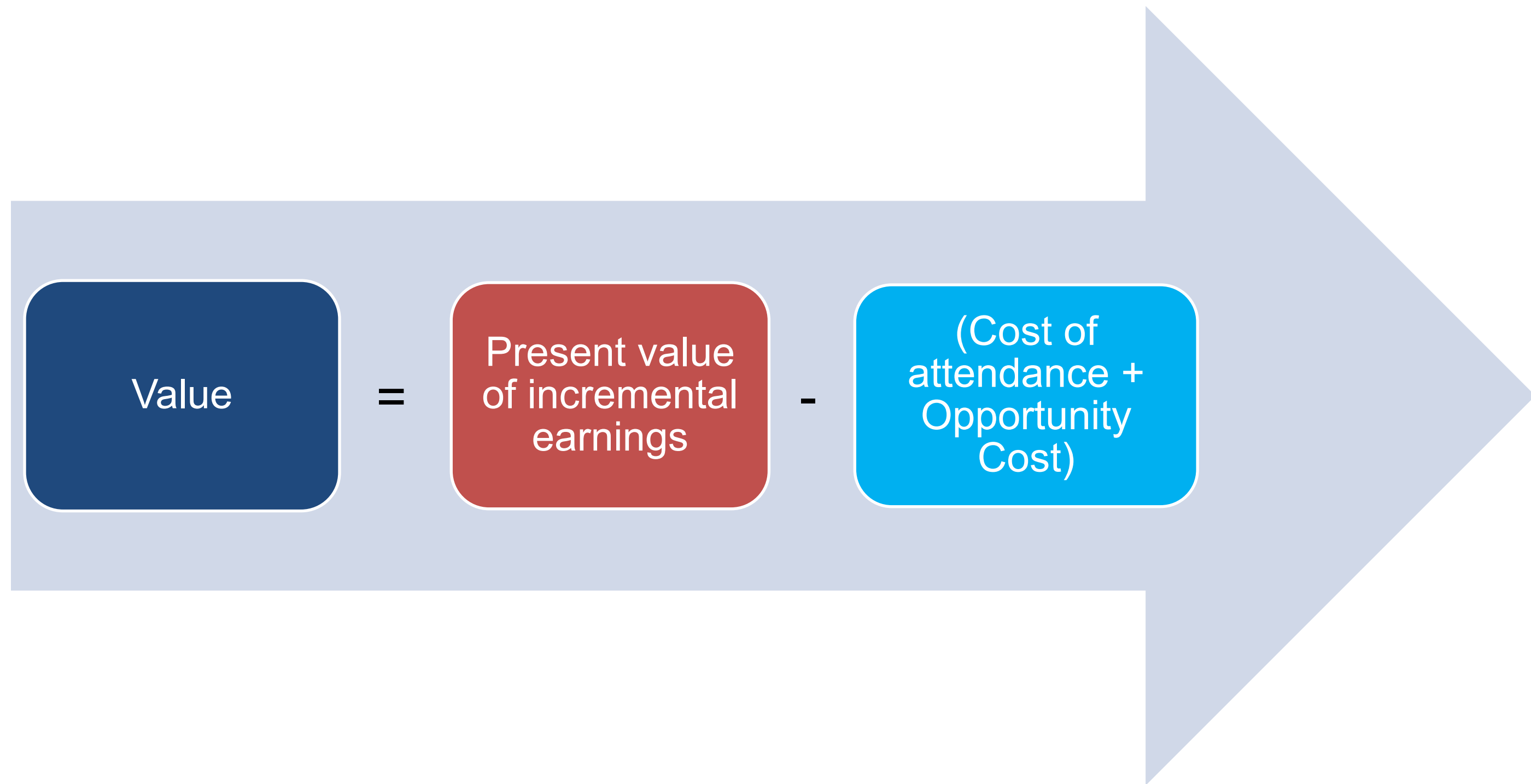
Estimated earnings and lifetime ROI for 30,000 bachelor's degrees

University of Arizona

State	Institution	Major	Earnings at Age 25	Earnings at Age 45	ROI (Before Completion Adjustment)	ROI (After Completion Adjustment)	ROI (Adjusting for Completion and Underlying Spending)
AZ	University of Arizona	Engineering-Related Fields.	\$71,304	\$175,094	\$1,920,254	\$1,132,046	\$1,040,328
AZ	University of Arizona	Physics.	\$67,323	\$163,185	\$1,646,784	\$965,095	\$873,377
AZ	University of Arizona	Electrical, Electronics and Communications Engineering.	\$73,204	\$141,335	\$1,370,750	\$793,474	\$701,756
AZ	University of Arizona	Computer Science.	\$79,566	\$133,496	\$1,367,265	\$791,487	\$699,770
AZ	University of Arizona	Materials Sciences.	\$63,797	\$138,609	\$1,305,667	\$758,718	\$667,000

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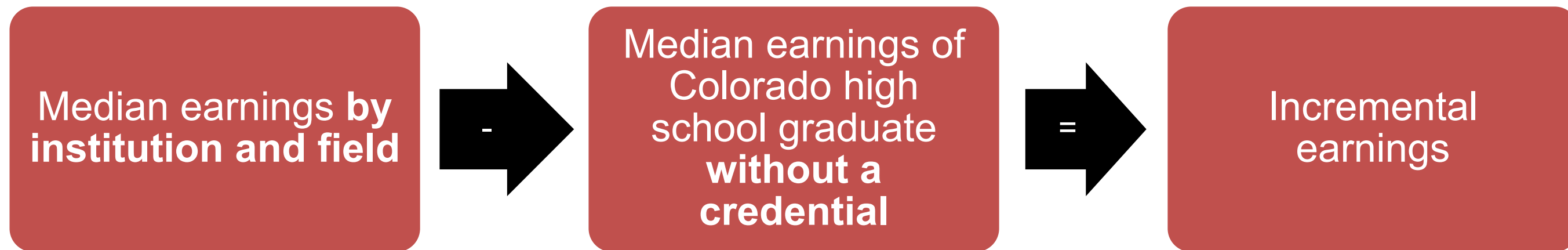
# Proposed value definition and calculation



# Initial framing

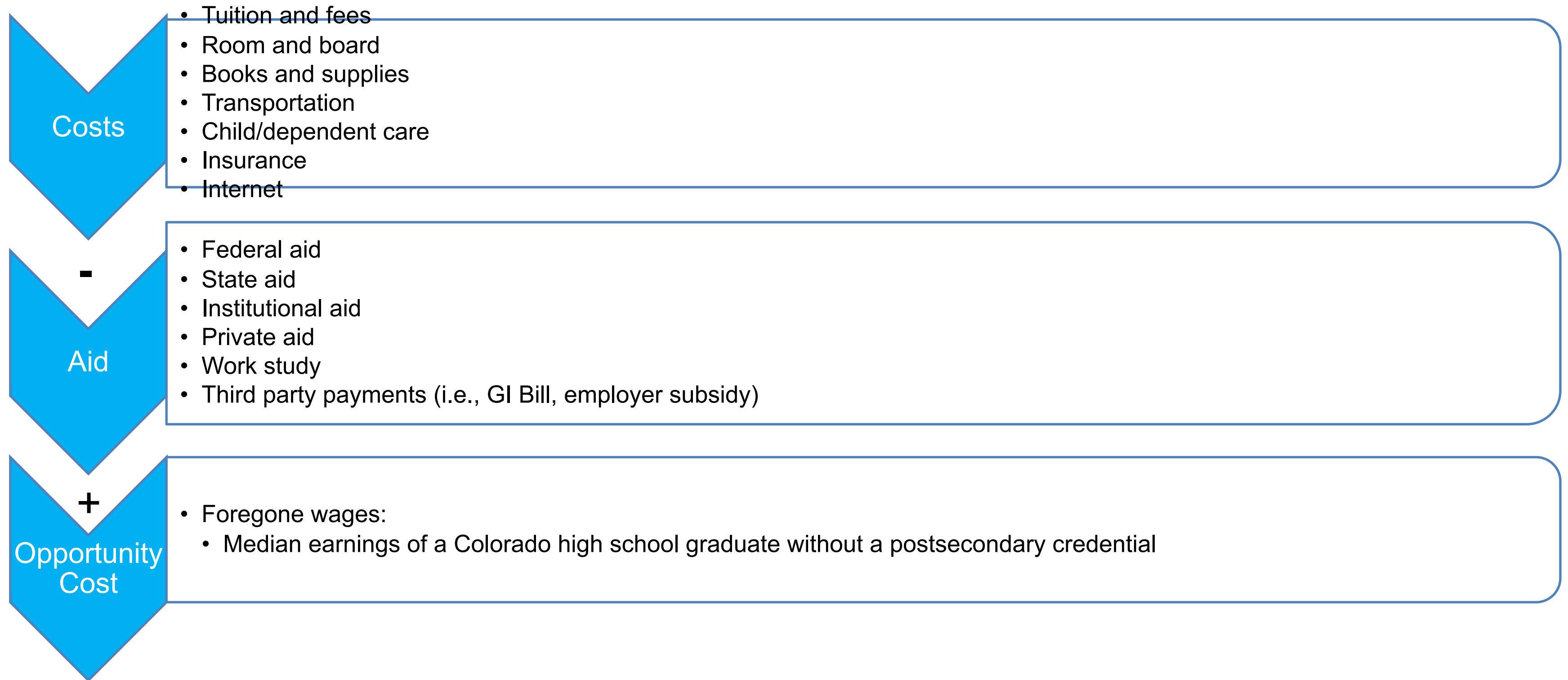
- Focusing today's conversation on students who **earn a credential**, not those with Some College, No Degree.
  - This is limited, imperfect.
  - This is a place to start.
- Comparison group: high school graduates
  - Consistent with prior work on value, ROI.
  - Further discussion to come.

# Incremental earnings



- Median earnings by institution and field to be calculated **annually**
  - i.e., Engineering at CO School of Mines vs. Computer Science at CU Boulder

# Net Cost + Opportunity Cost



# Data availability?

# Counterfactual

- High school graduates
- How to account for **observable** differences?
  - Sex
  - Race
  - Socioeconomic status
  - Geography
- How to account for **unobservable** differences?
  - Likelihood of postsecondary enrollment?
  - Likelihood of persistence/completion?

# What is **value** of postsecondary?

- Training and skills
- Earn a credential
- Social and professional network
  - Mentorship, guidance
- Internship, co-op experiences
  - Work-based learning while still enrolled
- Better job prospects
- Earning potential (i.e., make more money)